

cell of the invention that comes from the neural differentiation of a single undifferentiated ES cell), is dissociated the small number of neural stem cells in the sphere (that come from the symmetrical division of the original primitive neural stem cell) will proliferate to form secondary neurospheres (thus demonstrating self-renewal) that again all stain for the early neural marker nestin. In additional data (not shown), these new cells were determined not to be a tissue culture artifact but actually detectable in embryonic day 6 and 7 epiblast in the mouse. These cells can be isolated by their ability to form neurospheres in the in the presence of LIF (and not FGF2). At embryonic day 8 in the mouse, FGF2 dependent neural stem cell can be isolated from the developing neural plate.--

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Please replace the existing Abstract at page 77 with the following:

--ABSTRACT

Described are a novel cell type in the neural lineage, and method of producing the same based on the degree of neural commitment and growth factor responsiveness in vitro and the potential to give rise to neural and non-neural progeny in vivo. The novel vell type of neural lineage and cells derived therefrom have a number of applications including applications regarding tissue engineering, transplantation and gene therapy and drug discovery. Also described are suggested uses of the method and cell type including isolating genes that positively and negatively regulate the transition from an ES cell to a neural cell and generally for studying ES cell models of mammalian neural development.-

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